



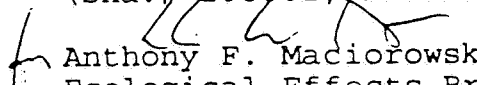
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

May 20, 1996

OFFICE OF  
PREVENTION, PESTICIDES, AND  
TOXIC SUBSTANCES

**MEMORANDUM**

SUBJECT: Review of *Daphnia magna* Life-Cycle Test  
(Sha.# 108801, DPBarcode D219942; ID#108801)

FROM:  Anthony F. Maciorowski, Chief  
Ecological Effects Branch  
Environmental Fate and Effects Division (7507C)

TO: Jane Mitchel, (PM 71)  
Product Manager  
Special Review and Reregistration Division (7508W)

EEB has received and reviewed the *Daphnia magna* Life-Cycle Chronic Toxicity Study submitted by the Ciba-Geigy Corporation to support the reregistration of Metolachlor. The following is a brief summary of the review:

**CITATION:** Putt, Arthur E., 1995, Metolachlor Technical - The Chronic Toxicity to *Daphnia magna* Under Flow-Through Conditions, performed by Springborn Laboratories, Inc., Wareham, MA, submitted by Ciba-Geigy Corporation, Greensboro, NC, Laboratory Report ID: 95-8-6061, MRID No.: 438026-01.

**CONCLUSIONS:** This study is scientifically sound but does not fulfill the guideline requirements (72-4(b)) for a freshwater invertebrate life-cycle test using *Daphnia magna*. The integrity of this study is questionable since measured concentrations were highly variable at all treatment levels throughout the study. The highest measured concentration was as much as 3.7 times higher than the lowest measured concentration within the same treatment level which exceeded the rejection rate criteria of 1.5 times. The study did not include raw growth data thus the growth data statistics could not be verified. This factor, plus the variability in the measured Metolachlor concentration, resulted in the classification of the study as supplemental. This study is not upgradable but does not need to be repeated at this time contingent upon the registrants acceptance of the NOEC LOEC and MATC values of 3.2, 6.9, and 4.7, respectively, based on growth and reproduction and the lowest measured concentration of each treatment level.

**REPAIRABILITY:** No

If you have any questions regarding this review, please contact Harry A. Winnik, Biologist, 305-7089

DATA EVALUATION RECORD  
AQUATIC INVERTEBRATE LIFE CYCLE TEST  
GUIDELINE 72-4(B)

1. CHEMICAL: Metolachlor PC Code No.: 108801

2. TEST MATERIAL: Metolachlor Technical Purity: 97%

3. CITATION:

Authors: Arthur E. Putt

Title: Metolachlor Technical - The Chronic Toxicity to *Daphnia magna* Under Flow-Through Conditions

Study Completion Date: September 22, 1995

Laboratory: Springborn Laboratories, Inc., Wareham, MA

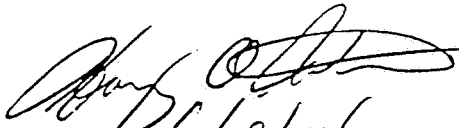
Sponsor: Ciba-Geigy Corporation, Greensboro, NC

Laboratory Report ID: 95-8-6061

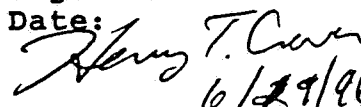
MRID No.: 438026-01

DP Barcode: D219942

4. REVIEWED BY: Harry A. Winnik  
Biologist  
EFED/EEB

Signature:   
Date: 6/21/96

5. APPROVED BY: Henry Craven  
Supervisory Biologist  
EFED/EEB

Signature:   
Date: 6/29/96

6. STUDY PARAMETERS:

Age of Test Organism: ≤24 hours  
Definitive Test Duration: 21 days  
Study Method: Flow-Through  
Type of Concentrations: Mean Measured

7. CONCLUSIONS: This study is scientifically sound but does not fulfill the guideline requirements (72-4(b)) for a freshwater invertebrate life-cycle test using *Daphnia magna*. The integrity of this study is questionable since measured concentrations were highly variable at all treatment levels throughout the study. The highest measured concentration was as much as 3.7 times higher than the lowest measured concentration within the same treatment level which exceeded the rejection rate criteria of 1.5 times. The study did not include raw growth data thus the growth data statistics could not be verified. This factor, plus the variability in the measured Metolachlor concentration, resulted in the classification of the study as supplemental. This study is not upgradable but does not need to be repeated at this time contingent upon the registrants acceptance of the NOEC LOEC and MATC values of 3.2, 6.9, and 4.7 ppm, respectively, based on growth and reproduction and the lowest measured concentration of each treatment level.

**Results Synopsis:** Based on the lowest measured concentration of each treatment level, the following values will be considered valid for this study:

NOEC: 3.2 ppm LOEC: 6.9 ppm MATC: 4.7 ppm

8. ADEQUACY OF THE STUDY:

- A. Classification: supplemental
- B. Rationale: The acceptable values are based on the lowest measured concentration of each treatment level.
- C. Repairability: No

9. GUIDELINE DEVIATIONS: Since there is no EPA's SEP for a flow-through daphnid life-cycle test, the SEP for static renewal tests was used as a general guidance in this data validation.

- 1. The measured concentrations of test material in the exposure solutions were highly variable at all treatment levels throughout the study. The highest measured concentration was as much as 3.7 times higher than the lowest measured concentration within the same treatment level.
- 2. Individual growth data were not included in the report; therefore, the reviewer could not verify the author's conclusions.

10. SUBMISSION PURPOSE:

11. MATERIALS AND METHODS:

A. Test Organisms/Acclimation:

Guideline Criteria	Reported Information
<u>Species</u> <i>Daphnia magna</i>	<i>Daphnia magna</i>
<u>Source</u>	In-house culture